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ABSTRACT

The relation of 20 predictor variables to the academic and non-academic self-concepts of 274 six to nine year old Mexican American migrant children were examined by canonical correlation and canonical variate analysis to determine whether self-concept was a multi-faceted construct. Academic and non-academic self-concepts were taken from the Self-Appraisal Inventory. Four sets of predictor variables included 11 teacher-rated classroom behaviors assessed by the Devereux Elementary School Behavior Rating Scale, 4 aspects of attitudes toward school measured by the School Sentiment Index, age levels, and teacher-rated language capability. The analysis determined canonical relations accounting for 51% of the total variance. Correlations between the canonical variates produced by the analysis and the original variables lead to the conclusion that the first and second variates were due to the relations of academic and non-academic self-concept measures to the prediction variables. Canonical variate analysis was also used to describe the different patterns of relations between the two aspects of self-concept and the 20 predictors. The validity of inferring self-concept from classroom behaviors of minority group children was discussed in relation to the finding that several behaviors usually considered negative correlates of self-concept measures were found to be positive correlates in this study. (Author/NQ)

Correlates of the Academic and Non-Academic Self-Concepts of Mexican-American Pupils

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Running Head: Self-Concepts of Mexican-American Pupils

Abstract

The relations of 20 predictor variables to the academic and non-academic self-concepts of 6 to 9 year old Mexican-American pupils were examined by canonical correlation and canonical variate analysis to determine if the data supported the notion of self-concept as a multi-faceted construct. Pupils studied were 274 children of migrant farm workers who attended educational programs sponsored by 30 local education agencies in Michigan during the summer of 1972. Academic and non-academic self-concepts were taken from the Self-Appraisal Inventory. Four sets of predictor variables included (a) eleven teacher-rated classroom behaviors assessed by the Devereux Elementary School Behavior Rating Scale, (b) four aspects of attitudes toward school measured by the School Sentiment Index, (c) age levels, and (d) teacher-rated language capability. Two canonical relations accounting for 51% of the total variance were determined in the analysis (R=.59 and .40). Correlations between the canonical variates produced by the analysis and the original variables lead to the conclusion that the first and second variates were due to the relations of academic and non-academic self-concept measures to the prediction variables. Interpretation of these as measures of separate dimensions of self-concept seems warranted. In addition, canonical variate analysis was used to describe the different patterns of relations between the two aspects of self-concept and the 20 predictors. The validity of inferring self-concept from classroom behaviors of minority group children was discussed in relation to the finding that several behaviors usually thought to be negative correlates of self-concept measures were found to be positively correlated in the current study.

Correlates of the Academic and Non-Academic Self-Concepts of Mexican-American Pupils

In a recent review of self-concept research, Shavelson, Huber, and Stanton (1976) cite the same fundamental limitation that had been identified in reviews more than a decade earlier (e.g. Crowne and Stephens, 1961 and Wylie, 1961): self-concept interpretations of the measures used in research are based on minimally acceptable evidence of construct validity. Shavelson et.al. describe and give examples of the conceptual and empirical tasks required if the situation is to be remedied. According to their view, the development of a broadly integrative working definition of self-concept should be followed by research of two kinds: a) that which empirically examines the structure and properties of self-concept and b) that which examines the relation of self-concept to other variables.

Shavelson et.al. offer a working definition of self-concept which specifies seven properties of the construct which may be used as a guide in validation research. Self-concept may be described as: organized, multi-faceted, hierarchical, stable, developmental, evaluative, differentiable (1976, p. 411). They specifically suggest a multi-faceted, hierarchical model which proposes two major dimensions of the self-concept: the academic self and the non-academic self. The non-academic self is hypothesized to include concepts of the social, emotional, and physical self (p. 413). In addition to using their working definition to define a model of self-concept, Shavelson et.al. employed it in analyzing data on five commonly used measures of self-concept. They conclude that for four of these the data support the notion of a multi-faceted

construct. More tentatively they suggest that the non-academic self-concept does involve physical, emotional and social aspects (1976, p. 436).

Recently reported research by Soares and Soares (Note 1) describes a direct attempt to define the dimensions of self-concept. They begin with the assumption that inquiry on the structure of intelligence as a helpful departure point.

Soares and Soares propose three models of self-concept each of which has a recognizable analog in the study of intelligence. a) a general factor model, analogous to Spearman's (1927) model of intelligence in which a "g" factor of self is assumed to be an aspect of the several unique aspects of an individual self-concept; b) a hierarchical model similar to that proposed by Shavelson et. al. and analogous to Vernon's (1965) model of human abilities; c) a taxonomic model of the self-concept analogous to Guilford's (1968) "Structure of Intellect" model of intellectual funcitoning.

Using the Affective Perception Inventory which yields scores on several dimensions of the self-concept at several levels of generality, they assessed 688 pupils randomly selected from 12 grades of a suburban school system. Intercorrelations among various dimensions were low and were interpreted as suggesting an independence of facets of the self-concept more consistent with the taxonomic model than either of the other two.

Both the studies reviewed by Shavelson et. al. and the research recently reported by Soares and Soares are limited in the sense that samples of subjects were mainly representative of white, middle class populations.

The current study examines the general hypothesis that self-concept is a multifaceted organization of perceptions, beliefs and ideas in the context of the more specific problem: For pupils enrolled in a summer migrant education program, do age, language

capabilities, attitudes toward school, and teacher-rated classroom behaviors have the same or a different pattern of correlations with two different dimensions of the self-concept "academic self-concept" and "non-academic self-concept"?

If self-concept is multi-faceted, a canonical variate analysis of the relations between a set of predictor variables and the two dimensions of self-concept should reveal two canonical variates: one which is highly correlated with academic self-concept and one which is highly correlated with non-academic self-concept.

Method

Subjects

Pupils studied in this research were a sample of 274 six to nine year olds participating in a summer school program for the children of migrant farm workers. A stratified randomly sampling process was used to select 30 classrooms from among those proposed in twenty-six proposals submitted to the Migrant Division of the Michigan Department of Education in the spring of 1972. A more detailed description of the sampling process and other procedures is available in an evaluation report of those programs (Eiszler and Kirk, 1973).

Although a total of 773 children spent a day or more in these classrooms, only pupils for whom teacher ratings of classroom behavior were available were included in the sample. The instrument used for these ratings requires observations over a period of time. Pupils who spent less than 15 days in the classroom were not rated and are not included in this analysis.

Self-Concept Measures

The two dimensions of self-concept examined were assessed by scales taken from the Self-Appraisal Inventory, Primary Level (I.O.X., 1970).

Academic self-concept was measured by 12 yes/no questions eliciting a pupil's perceptions of his capability in school situations. (Can you give a good talk in front of your class? Are you a good reader? Do you forget many things that you learn? Is it easy for you to do things at school?)

Non-academic self-concept was measured by 5 yes/no questions eliciting a pupil's perceptions of himself in general. (Do you like to be who you are? Do you wish you were someone else? Are you a good child?)

The items comprising these two scales were embedded in a 40 item instrument which included items eliciting school attitudes. Reliability estimates were based on a sample of 391 pupils who had repsonded to the instrument at sometime during their summer school experience. K-R 20 coefficients were .40 and .51 for the academic and non-academic self-concept scores respectively. According to Guilford (1954, p. 380) the K-R 20 should be considered a lower bound reliability estimate which may not reflect true stability of scores over time. Given the number of items in each scale and the nature of the K-R 20 coefficient, the reliability of each of the two scores was considered to be acceptable.

Predictor Variables

Four sets of predictors were included in the study: teacher ratings of classroom behaviors, pupil attitudes toward school, age levels, and language capabilities.

Teacher ratings. The Devereux Elementary School Behavior Rating Scale (Spivack and Swift, 1967) was used to provide a profile of the overt behavior patterns of the children in the migrant education classrooms studied. Teacher ratings of 47 items are grouped into 11 behavior factors each assessed by 3-5 five items. (Three single item scores were not used in this study).

The eleven behavior clusters described by the instrument include both positive and negative correlates of school achievement according to the authors. These factors are: (1) classroom disturbance - behavior which is active, social (although inappropriate), and disruptive; (3) impatience - impulsivity and the related absence of reflectivenes when work is assigned; (3) disrespect defiance - open disrespect for or resistence to the school, the subject matter being taught and the teacher; (4) external blame - the manifestations of the belief that external circumstances (e.g. the teacher, the difficulty of the task) are the sources of the child's problems; (5) achievement anxiety - the outward display of worry or upset concerning an inability to meet achievement demands in the school situation; (6) external reliance - inability to make independent decisions or take action without support and direction of others; (7) comprehension - understanding of what is being taught and ability to recall it later or apply it to new situations; (8) inttentive/withdrawn - tendency to lose contact with what is going on in class; (9) irrelevant/responsiveness - intrusive, exaggerated, or untruthful verbal responses; (10) creative initiative - active personal involvement and motivation to contribute to classroom learning activities; (11) need for closeness - desire to be close and offer to do things for the teacher. In each of these categories, higher ratings indicate higher frequencies of occurence in the classroom. For all

but comprehension, creative initiative, and need for closeness high scores were negatively correlated with achievement and academic performance (Spivack and Swift, 1967).

The authors report test-retest reliability coefficiences for each scale ranging from .71 to .91 with a median coefficient of .87.

Attitudes toward school. Pupil attitudes toward school were assessed by 23 items taken from the School Sentiment Index, Primary Level (I.O.X., 1970 a). Items used measured attitudes in four areas: school subjects (Do you like to read?), structure and climate of the school (Are adults at your school friendly to children?), peers (Are other children in your class friendly to you?), and general school sentiment (Is school a happy place for you to be?). K-R 20 reliability estimates for these scales were .66, .26, .40 and .47 respectively.

Age Levels. Pupil ages were recorded by year to their most recent birthday. Four pupil age groups 6, 7, 8, and 9-year-olds were studied.

Language capability. Teachers were asked to classify each of their students into three groups on the basis of their language in the classroom: English speakers who use only that language in the school setting, English/Spanish bilinguals who use both languages, and Spanish speakers who use Spanish almost totally in their communication with teachers, aides and other pupils.

Data Collection Procedures

The 40 item inventory assessing attitudes toward school and self-concept was administered by classroom teachers twice during each program, in the first and final week. The length of programs varied, but the typical program lasted six weeks.

All pupils present on the day of testing were given the inventory. In the current study, pupil responses to the second testing were given preference and used if available.

The Devereux ratings were completed by the teachers at the end of the summer programs for all pupils who had been in attendance a minimum of 15 class days.

All data forms were mailed by project directors to the Michigan Migrant Education Center, Central Michigan University for scoring and analysis. Item data were keypunched and scoring and analysis done by the University Computer Center.

Data Analysis Procedure

The 1975 version of the SPSS CANCORR program for canonical variate analysis adapted for use with Univac 1106 was used in the data analysis. Canonical correlations between two data sets, self-concept measures and predictor variables, were calculated and variate scores for two canonical variates were computed for each subject. Correlations between the canonical variates and original variables were calculated using the SPSS program for the Pearson product-morent correlation. According to Darlington, Weinberg, and Walberg (1975, p. 100) such correlations are more stable than the canonical weights. In these analyses the categorical variables of age and language capability were transformed to dummy variables.

Results

Using the canonical variate analysis the study examined the relations of two dimensions of self concept with twenty predictor variables. Tables 1 and 2 present

summaries of the data on which the analysis was performed. Table 1 presents the means and standard deviations of each variable in the analysis. In this analysis age levels and language groups are treated as dummy variables. Means for these variables indicate the proportion of the total sample included in that group.

Insert Table 1 about here

The correlations of each predictor with each self-concept variable are shown in Table 2. Although composite scores on attitude and self-concept measures were not included in the canonical analysis they are included in the correlational analysis reported in Table 2.

Insert Table 2 about here

The primary goal of analysis was to find the canonical correlation among the predictors and the two self-concept variables. Table 3 summarizes the results of canonical correlation analysis. Two canonical relations are described by coefficiencts of .59 and .40 respectively. Two independent relations of predictor variables with self-concept seem required to describe the data. The first relation accounts for 35 percent of total variance, slightly more than twice the amount accounted for by the second relation.

Insert Table 3 about here

The correlations of canonical variates with each of the original variables is presented in Table 4. The first canonical variate correlates highly with academic self-concept (r=.9716) and moderately with non-academic self-concept (r=.5739). The second variate correlates highly with non-academic self-concept (r=.8496) and slightly negatively with academic self-concept (r=-.1824). The canonical correlations appear to describe separate

dimensions of self-concept.

Insert Table 4 about here

Further examination of the pattern of correlations between the original variables and the canonical variates reveals patterns which help clarify the nature of the academic and non-academic self-concept.

The first canonical variate, in addition to correlating highly with academic self-concept, correlates positively with each of the following: (a) pupil attitudes toward school (particularly attitudes toward school subjects); (b) teacher ratings of behavior which emphasize the pupil's motivation and classroom involvement, ability to understand, remember and apply what is being taught, the tendency to blame outside forces for problems, a tendency to be worried or display upset about school work, and the somewhat contradictory tendencies to be openly defiant and to need closeness to the teacher; and (c) the tendency to be bilingual in language functioning. This variate has negative correlations with teacher-rated tendencies to be inattentive or withdrawn, to rely on others for direction, to be impatient and to create classroom disruptions, as well as with the tendency to be a 6-year old.

The second canonical variate, in addition to correlating highly with non-academic self-concept, is positively correlated with the following variables: (a) pupil attitudes which emphasize peer relations; (b) teacher ratings which include the following behavioral tendencies: to rely on others for direction, to worry about ability to do school work, to blame others for problems, to be inattentive and withdrawn, and to make irrelevant and intrusive verbal comments; and (c) the tendency to be a 7-year old. This variate is negatively related to attitudes toward school subjects and a tendency to be a 6-year old.

Correlates of the academic and non-academic self-concept (as represented by the first and second variates respectively) are schematically represented in Figure 1.

Insert figure 1 about here

Discussion

Two separate dimensions of self-concept of Mexican-American elementary school pupils were identified in this study by using canonical correlation analysis to show that two canonical variates are reuqired to explain the relations of 20 predictor variables with two measures of self-concept. The first canonical variate correlated primarily with academic self-concept and the second primarily with non-academic self-concept. Consequently, the data support the validity of the notion that self-concept is multi-faceted (Shavelson et. al., 1976).

The fact that non-academic self-concept correlated both with the first and second variates (although considerably less strongly with the first than the second) suggests a level of dependence among aspects of the self-concept which would be more consistent with a hierarchial model than a taxonomic model, thus conflicting with the recent research of Soares and Soares (Note 1).

Several factors distinguish between the two aspects of the self-concept. Academic self-concept is correlated positively with pupil attitudes toward several aspects of school, particularly school subjects, and with teacher ratings of pupil ability to comprehend, remember and use what is being taught, as well as, pupil motivation level.

Non-academic self is negatively correlated with pupil attitudes toward school subjects and school in general and positively correlated with attitudes toward peers.

In addition, pupils with high scores on the canonical variate which correlated highest with non-academic self-concept also score high on teacher ratings of external reliance, inattentiveness, impatience and irrelevant responsiveness.

In addition, the academic and non-academic self-concept of Mexican-American pupils share three positive correlates which are unexpected: teacher-rated tendencies for their pupils to be openly disrespectful, defiant, or resistant to school authority; to express beliefs that external circumstances are the cause of problems; and to show upset or worry about being unable to meet the demands of school.

In larely white, middle class populations represented by the normative samples (Spivack and Swift, 1967) these characteristics are seen to be negative correlates of achievement and achievement-related beliefs and attitudes. It is possible that defiance and external blame are indicators of positive self-concept in minority group children because these characteristics reflect the refusal to accept a status of inferiority proposed by the social order. Taken in combination with the need to achieve as reflected in achievement anxiety, these characteristics portray a realistic rebelliousness. That Mexican-American pupils tend to display these characteristics increasingly with more positive academic and non-academic self-concepts suggests the complexity involved in studying self-concept and in applying self-concept research. While the structures of the self-concepts of minority group and non-minority group pupils may be similar, i.e., the same dimensions may be salient, the behavioral correlates in the classroom may differ considerably. Teachers and pyschologists attempting to infer the self-concepts of Mexican-American pupils from classroom behaviors which they know to be positively or negatively associated with self-concept in white middle-class pupils will be seriously misled.

Under these circumstances the professional is more likely, for example, to view the complaint, self-effacing child as the one with the more positvie self-concept.

In their attempts to understand self-concept, researchers must assume theoretical positions that admit to complexity. The study of self-concept as a multi-dimensional trait is an important step in this direction. In their attempts to use pupil self-concept as an important classroom variable, educational practioners, whether teacher, principal, counselor, or school psychologist, must avoid quick and easy inferences from observable classroom behaviors, particularly when working with minority group or culturally different child. The availability of low inference measurement techniques similar to those available through the Instruction Objectives Exchange is an important advantage for school practioners.

Table 1

Means and Standard Deviations of

Predictor Variables and Self-Concept Measures

	N	Mean	Std. Dev.
Predictor Variables			
Teacher Ratings			
Classroom Disturbance	273	10.81	4.14
Impatience	244	11.08	4.14
Disrespect/Defiance	272	7.10	3.00
External Blame	259	7.74	3.76
Achievement Anxiety	232	8.43	3.75
External Reliance	248	15.72	5.53
Comprehension	253	10.81	3.30
Inattentive/Withdrawn	272	10.26	4.17
Irrelevant Responsiveness	262	8.27	3.01
Creative Initiative	246	9.47	3.50
Need for Closeness	259	14.50	3.96
Attitudes Toward School			
School Subjects	272	5.04	1.69
Structure and Climate	268	3.00	1.16
Peers	273	3.25	1.08
General	266	4.41	1.28
Total	274	15.45	1.15
Age Levels			
6	274	.1971	.3985
7	274	.3102	.4634
8	244	.3139	.4649
Language Groups			
English Only	274	.1387	.3463
English/Spanish Bilingual	274	.7226	.4485
Self-Concept Variables			
Academic	274	7.79	2.11
Non-academic	273	3.77	1.15
Total	274	11.55	2.77

Table 2

Correlations of Predictor Variables with Original Self-Concept Measures

Predictors	Self-Concept: Academic	Non-Academic	Total a
Teacher Ratings			
Classroom Disturbance	-.0969	-.0969	-.1107*
Impatience	-.0704	-.0126	-.0622
Disrespect/Defiance	.0378	.0417	.0513
External Blame	.1119*	.1002	.1294*
Achievement Anxiety	.0705	.1824*	.1227*
External Reliance	-.0799	.0394	-.0512
Comprehension	.1439*	.0110	.1218*
Innattentive/Withdrawn	-.1785*	-.0160	-.1436*
Irrelevant Responsiveness	-.0064	.0094	.0065
Creative Initiative	.1545*	.0518	.1476*
Need for Closeness	.1279*	.0330	.1148
Attitudes Toward School			
School Subjects	.4612*	.3046*	.4815*
Structure and Climate	.3608*	.2457*	.3775*
Peers	.2490*	.3197*	.3315*
General	.3582*	.2081*	.3567*
Total a	.5446*	.4143*	.5902*
Age Levels			
6	-.1079*	-.1100*	-.1254*
7	-.0686	.0351	-.0453
8	.0444	.0586	.0615
Language Groups			
English Only	.0196	.0150	.0232
English/Spanish Bilingual	.0782	.0053	.0587

a Composite Attitude and Self-Concept scores were not included in the Canonical correlation analysis because of the dependence of each on its subscores which were included.

* $p < .05$

Table 3

Chi Square Test of Successive Latent Roots

Roots Removed	Largest Root Remaining	Canonical R	Wilk's Lambda	Chi Square	DF	P
0	.3507	.5922	.5443	101.27	40	.000
1	.1617	.4021	.8383	29.36	19	.061

Table 4

Correlation of Variables With Canonical Variates

Predictors	Canonical Variates First	Second
Teacher Ratings		
Classroom Disturbance	-.1146	.0605
Impatience	-.1129	.1679
Disrespect/Defiance	.1644	.1394
External Blame	.3388	.2273
Achievement Anxiety	.2356	.4268
External Reliance	-.1473	.3113
Comprehension	.2088	-.0154
Innattentive/Withdrawn	-.2547	.2769
Irrelevant Responsiveness	.0768	.2923
Creative Initiative	.2912	-.0295
Need for Closeness	.1812	.0228
Attitudes Toward School		
School Subjects	.7630	-.1537
Structure and Climate	.3998	.0043
Peers	.3826	.3943
General	.6264	-.1135
Total Attitude[a]	.8466	.0142
Age Levels		
6	.1977	-.2060
7	-.0071	.3653
8	-.0393	.0929
Language		
English Speaker	-.0739	.0697
English/Spanish Bilingual	.1373	-.0273
Self-Concept		
Non-academic	.5739	.8496
Academic	.9716	-.1824
Total [a]	.9869	.2162

[a] Not included in original canonical correlation

	Academic Self-Concept	Non-academic Self-Concept
Positive	Teacher Ratings of: External blame Creative initiative Achievement anxiety Comprehension Need for Closeness Disrespect/Defiance Attitudes toward: School subjects School in general Structure and climate Peers in school Language: Spanish/English bilingual	Teacher Ratings of: Achievement anxiety External reliance Irrelevant responsiveness Inattentiveness External blame Impatience Disrespect/Defiance Attitudes toward: peers in school Age: Tendency to be a 7 year old
Negative	Teacher Ratings of: Inattentiveness External reliance Classroom disturbance Impatience Age: Tendency to be 6 year old	Attitudes toward: School subjects School in general Age: Tendency to be 6 year old

Figure 1. Positive and Negative Correlates of the Academic and Non-academic Self-concepts of Mexican-American Pupils

Reference Note

1. Soares, L. M. and Soares, A. T. The Self-Concept: Mini, Maxi, Multi? Paper presented at the annual meeting of the American Education Research Association, New York, April, 1977

References

Crowne, D. P., & Stephens, M.W. Self-acceptance and self-evaluating behavior: A critique of Methodology. Psychological Bulletin, 1961, 58, 104-121

Darlington, R. B., Weinber, S. L. & Walberg, H. J. Canonical Variate analysis and related techniques. In D. J. Amick and H. J. Walberg (Eds.) Introductory Multivariate analysis for educational, psychological, and social research. Berkeley: McCutchan, 1975

Eiszler, C. F. & Kirk, B. V. Achievement and attitude change in migrant education summer classrooms, 1972. Mt. Pleasant, Mich.: Central Michigan University, Michigan Migrant Education Center, 1973. (ERIC Document Reproduction Service No. ED 072876)

Guilford, J. P. Intelligence has three facets. Science, 1968, 160, 615-620.

Instructional Objectives Exchange. Attitude toward School: K-12. Los Angeles: 1970a

Instructional Objectives Exchange. Measures of self-concept: K-12. Los Angeles: 1970b

Shavelson, R. J., Hubner, J. J. & Stanton, G. C. Self-concept: Validation of Construct Interpretations. Review of Educational Research, 1976, 46, 407-442.

Spearman, C. The Abilities of Man. New York: MacMillan, 1927

Spivack, G. & Swift, M. Devereux Elementary School Behavior Rating Scale Manual. Devon, PA.: Devereux Foundation, 1967.

Vernon, P. E. Structure of Human Abilities. (2nd ed.) New York: Harper & Row, 1965.

Wylie, R. The Self-concept: A Critical Survey of Pertinent Literature. Lincoln: Universtiy of Nebraska Press, 1961